NUCLEAR ENERGY INSTITUTE

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December 20, 2002

Mr. James E. Lyons
Director, New Reactor Licensing Project Office
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Resolution of Generic Topic ESP-18a (Alternative Site Reviews for Early Site Permits)

Dear Mr. Lyons:

In a public meeting with the NRC staff on December 5, 2002, we discussed generic topic ESP-18a, which addresses the nature of alternative site reviews required for early site permit applications.

10 CFR 52.17(a)(2) requires an ESP applicant to include in its Environmental Report an evaluation of alternative sites to determine whether there is any obviously superior alternative to the site proposed. On November 19, we provided an analysis of the current law under NEPA, and on December 5, we discussed the industry's recommended approach to alternative site reviews for ESP. Our November 19 analysis is provided as Enclosure 1.

In accordance with the protocol established for documenting resolution of generic ESP issues, we request that, by reply to this letter, the NRC confirm the understandings and expectations identified below based on our discussion. To provide for timely resolution of generic issues and continued progress toward submittal of ESP applications in mid-2003, we request that NRC respond by February 1.

Understandings/Expectations

1. As discussed with the staff on December 5, we conclude that both legal and policy reasons justify the NRC limiting its required NEPA analysis of alternatives to those that are pertinent in the context of the license application before it. For each of the three pilot ESP applicants, the objective is the approval of an existing nuclear site for new nuclear units. Thus, each applicant's NEPA evaluation of alternatives should be limited to consideration of other existing nuclear sites.

2. Consistent with a focus on alternatives that would satisfy the applicant's business purpose, only sites in the applicant's region of interest and under its control will be considered. The NEPA requirement for a "hard look" at alternatives is satisfied by evaluation of the applicant's other existing nuclear sites in the region of interest.

   This approach is consistent with existing guidance for review of alternative sites in NUREG-1555, Section 9.3 (III.8), which concerns the special case of existing sites.

   Because this issue has implications beyond ESP, the industry requested that the Commission address this issue generically in supplemental comments provided on December 18 on petition for rulemaking PRM-52-2.

3. Because of the obvious advantages of an existing nuclear site over non-nuclear sites for additional nuclear units, including the pre-existence of essential infrastructure, it is expected that no non-nuclear site would be found to be obviously superior. While not required by NEPA, lead ESP applications will also include a brief discussion that compares the selected site to generic green-field and generic industrial sites that will provide the analytical basis to confirm this presumption.

Enclosure 2 provides an updated listing and status of generic ESP topics.

We look forward to your confirmation of the understandings and expectations described above related to ESP-18a. If you have any questions concerning this request, please contact Russ Bell (rjb@nei.org or 202-739-8087).

Sincerely,

Ron Simard

Enclosures

c: Ronaldo V. Jenkins, NRC/NRR
Document Control Desk

ESP-18a, Enclosure 1
December 20, 2002

ESP-18a:
Alternative Site Reviews For Early Site Permit Applicants Using Existing Licensed Sites

1. Introduction

This paper discusses and justifies a reasonable approach for considering alternative sites in an Early Site Permit Proceeding (ESP).[1] 10 C.F.R. § 52.17(a)(2) requires an ESP applicant to include in its Environmental Report an evaluation of alternative sites to determine whether there is any obviously superior alternative to the site proposed.[2] As explained in this paper, where ESP applicants, such as the three lead applicants, seek approval of an existing nuclear site for new nuclear units, the evaluation of alternatives should be limited to consideration of other nuclear sites controlled by the applicant, and any other evaluation performed by the applicant (e.g, a generic green-field site, a generic industrial site.)

This scope of evaluation complies with NEPA's standard of reasonableness. The Courts have held that NEPA's requirement to consider alternatives is subject to a rule of reason, and that only those alternatives that serve a private applicant's goals and needs should be considered. While the goals and needs of the public utility applicants who proposed in the 1960s and 1970s to build their first generation of plants may have justified evaluation of a broader range of sites at that time, the goals and needs of today's applicants justify a more focused review. As a practical matter, an applicant for new nuclear units will generally be limited to the expanded use of property it already owns, and the competitive need for economies of scale will strongly militate toward using existing nuclear facilities. Consequently, there should be a strong presumption that new sites do not serve an applicant's need and therefore do not have to be evaluated as alternatives under NEPA.

In addition, there should be a strong presumption that new sites are not "obviously superior" to the expanded use of an existing nuclear site, which has already gone through a previous NEPA review and evaluation of alternatives, and which is already developed and dedicated to nuclear use. A discussion of a generic green-field site and a generic industrial site as described in Section III.B would be provided by the applicant to confirm that there is no reasonable likelihood that such sites will be obviously superior.

The NRC has long recognized the need to develop new guidance on consideration of alternative sites for new applicants, taking into account the changing nature of the

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[1] The position in this paper would also apply to a combined Construction and Operating License (COL) proceeding in those cases where an ESP has not been previously obtained.

[2] That standard was first established by the Commission for the evaluation of alternative sites for new nuclear power plants in Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 526-30 (1977). "Obviously superior" was later interpreted also to mean "substantially better." Rochester Gas and Electric Corp. (Stirling Power Project, Nuclear Unit No. 1), CLI-80-23, 11 NRC 731, 737 (1980).

electric industry. In a 1991 Staff Requirements Memorandum on SECY-91-041, Early Site Readiness Review, the Commission stated, "in developing guidance for the review of the early site permit, the staff should consider the need for guidance on the number of alternative sites that must be considered and whether this number would depend on the nature . . . of the ESP applicant permitted under Part 52." While an NRC rulemaking initiative to address this issue became inactive because of other priorities, the NRC reactivated the initiative in 2000 with the objective of commencing a rulemaking in mid FY 2002. Memorandum from W. Travers to the Commissioners, Reconsideration of the Rulemaking Activity Plan: Alternative Site Reviews (RM#313) (Dec. 18, 2000). Clearly, it is time to move forward with an approach that recognizes the changes in the industry and focuses the environmental review so that only those alternative sites that meet a private applicant's goals and needs are examined.

2. Legal Standards

It is well established that NEPA's requirement to examine alternatives is subject to a "rule of reason." NRDC. v. Morton, 458 F.2d 827 (D.C. Cir. 1972). This rule of reason requires agencies to consider only "those alternatives necessary to permit a 'reasoned choice.'" City of Angoon v. Hodel, 803 F.2d 1016, 1021 (9th Cir. 1986), cert. denied, 484 U.S. 870 (1987); California v. Block, 690 F.2d 753, 767 (9th Cir. 1982). "[T]he touchstone . . . is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation." California v. Block, 690 F.2d at 767.

In Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519 (1978), the Supreme Court explained that alternatives are not self-defining and must be bounded by some notion of feasibility. 435 U.S. at 551. An EIS cannot be found wanting simply because the agency failed to include every alternative device and thought conceivable to the mind of man. Id. at 551. Thus, only reasonable alternatives – alternatives that are ascertainable and reasonably within reach – need be examined. City of Angoon, 803 F.2d at 1022; Druid Hills Civic Ass'n v. Federal Highway Admin., 772 F.2d. 700, 712 (11th Cir. 1985), cert. denied, 488 U.S. 819 (1988).

In addition, only alternatives that serve the purpose of the proposed action need be considered. See City of Angoon, 803 F.2d at 1021 ("When the purpose is to accomplish one thing, it makes no sense to consider the alternative ways by which another thing may be achieved."); Trout Unlimited v. Morton, 509 F.2d 1276, 1286 (9th Cir. 1974)("The range of alternatives that must be considered need not extend beyond those reasonably related to the purpose of the project."). See also North Buckhead Civic Ass'n v. Skinner, 903 F.2d 1533, 1542-43 (11th Cir. 1990).
In 1991, the U.S. Court of Appeals for the District of Columbia Circuit ruled on an FAA environmental impact statement that considered only the alternatives of approving an airport expansion or not approving the expansion. Citizens Against

Burlington v. Busey, 938 F.2d 190 (D.C. Cir.), cert. denied, 502 U.S. 994 (1991). The Court assessed the range of alternatives as follows: "[T]he proposed alternative is reasonable only if it will bring about the ends of the federal action . . . . The goals of an action delimit the universe of the action's reasonable alternatives." Id. at 195 (citations omitted). To support its ruling, the court cited, as an example, a proposed reactor in Vernon, Vermont:

> If licensing the Vernon reactor is meant to help supply energy to New England, licensing a reactor in northern New York might make equal sense. If licensing the Vernon reactor is meant as well to stimulate the Vernon job market, licensing a reactor in Lake Placid would be far less effective.

Id. In its example, the court permitted the agency to limit the range of alternatives to be considered to match the purpose and need of its proposed actions.

The FAA described its objectives in this case as follows: "to launch a new cargo hub in Toledo and thereby helping to fuel the Toledo economy." Id. at 198. The FAA then eliminated three alternatives preliminarily from the EIS, evaluating only the build/no build alternative. The three alternatives excluded from consideration were: approving other geometric configurations for expanding the Toledo airport, approving plans for other airports both in the Toledo metropolitan area and out of it. The court upheld this process as legally sufficient. Furthermore, the court showed great deference to the sponsoring agency in defining its objectives "so long as the objectives that the agency chooses are reasonable" and "so long as the alternatives are reasonable and the agency discusses them in reasonable detail." Id. at 196.

Moreover, the Court emphasized that where the reviewing agency is considering a private applicant's proposal, rather than a government project, it is the private applicant's goals that shape the scope of alternatives to be considered.

> The scope of alternatives considered by the sponsoring Federal agency, where the Federal government acts as a proprietor, is wide ranging and comprehensive. Where the Federal government acts, not as proprietor, but to approve and support a project being sponsored by a local government or a private applicant, the Federal agency is necessarily more limited. In the latter instance, the Federal government's consideration of alternatives may accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project.

Id. at 197; accord City of Grapevine v. DOT, 17 F.3d 1502, 1506 (D.C. Cir.), cert. denied, 513 U.S. 1043 (1994).

Further, the Court stressed that a private applicant's need and purpose are to be respected:

> An agency cannot redefine the goals of the proposal that arouses the call for action; it must evaluate alternative ways of achieving its goals, shaped by the application at issue and by the function that the agency plays in the decisional process. Congress did expect agencies to consider an applicant's wants when the agency formulates the goals of the proposed action. Congress did not expect agencies to determine for the applicant what the goals of the applicant's proposal should be.

Citizens Against Burlington, 938 F.2d at 199.

These principles are illustrated in City of Angoon. In that case, the Corps of Engineers had prepared an EIS evaluating a proposal by a native tribe to build a log transfer facility on its land. The Court upheld the statement of purpose and need as providing a safe, cost-effective means of transferring timber harvested on the tribe's land to market. 803 F.2d at 1021. Having accepted this statement of purpose, the Court ruled that the EIS did not have to consider as alternatives the possibility that the tribe might be able to exchange its property for land elsewhere. The Court stated that when the purpose is to accomplish one thing, it makes no sense to consider alternative ways by which another thing might be achieved. Id. The Court added, "[t]o require the Corps to select one or more tracts for exchange which, in its view, might induce both an offer and acceptance is to visit upon it a task that would involve almost endless speculation." Id.

The Commission recently addressed the question of the scope of reasonable alternatives and followed the case law discussed above in Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4 (2001), in which it affirmed a licensing board decision regarding a proposed in situ uranium leach mining project.

> Agencies need only discuss those alternatives that are reasonable and "will bring about the ends" of the proposed action. "When the purpose is to accomplish one thing, it makes no sense to consider the alternative ways by which another might be achieved."

Id. at 55 (citations omitted). The Commission recognized that the purposes of the project in that case were not merely to provide fuel to nuclear power plants but also to maintain the viability of the domestic uranium mining industry in order to assure a dependable domestic source of uranium; to provide socioeconomic benefits to the local community, the local governments, and the State of New Mexico; and to provide a profit for the license applicant. Id.

The Commission distinguished private projects from Federal projects:

> "Where the Federal government acts, not as a proprietor, but to approve . . . a project being sponsored by a local government or private applicant, the Federal agency is necessarily more limited." The NRC is not in the business of crafting broad energy policy involving other agencies and nonlicensee entities. Nor does the initiative to build a nuclear facility or undertake . . . uranium mining belong to the NRC.
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> When reviewing a discrete license application filed by a private applicant, a federal agency may appropriately "accord substantial weight to the preferences of the applicant and/or sponsor in the citing and design of the project." The agency thus may take into account the "economic goals of the project's sponsor."

Id. (citations omitted). The Commission noted that the applicant proposed to mine in the chosen location because it owned land there in fee simple and that was where the ore body was located. Id. at 56. The alternatives evaluated in this case did not include any alternative sites; rather, they included different levels of mitigation of environmental impacts at the proposed site plus the no action alternative. See Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), LBP-99-30, 50 NRC 77, 132-33 (1999).

The Commission undertook broader inquiries into electric utility applicants' alternative site analyses for new power plants in the late 1970s, but those cases predated the judicial interpretations of NEPA discussed above and therefore need not be followed. The practices of the 1970s also addressed siting decisions by traditional public utility applicants and are therefore factually distinguishable.[3]

3. Alternative Site Review for an ESP Applicant Should Be Focused and Limited by the Applicant's Need

Based on the developments in the law discussed above, the NRC should limit its evaluation of alternatives to those that serve the private applicant's goals and needs. Where the purpose of an applicant for an ESP or COL is to build new units at existing nuclear sites, it makes no sense – and NEPA does not require –

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[3] While the NRC case law of the 1970's is distinguishable and should not be followed, even some of the old standards established in the 1970s would support limiting review to existing sites. The Commission held that applicants could consider the actual cost of completing the plant at each site, Seabrook, CLI-77-8, 5 NRC at 531-32, thus giving proposed sites near existing infrastructure an advantage over virgin sites. The Appeal Board later held that alternative sites less expensive but more environmentally harmful than the proposed site need not be considered at all. Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155, 162 (1978). Applicants could also consider the proximity of potential sites to the load centers to be served by the power plants, balancing the load on the electrical transmission system, and potential impacts on grid reliability. Seabrook, CLI-77-8, 5 NRC at 540. Those factors would favor existing power plant sites over virgin sites or other industrial sites. Finally, it held that applicants could consider "possible institutional and legal obstacles associated with construction at an alternat[iv]e site," including, in that case, the lack of franchise privileges and eminent domain powers and the need to restructure existing financial and business relationships. Id. Such factors may make the consideration of entire classes of sites unreasonable. Id. & n.44. Such institutional and legal factors would appear to favor existing nuclear sites very strongly.

consideration of building those units at other locations that the applicant does not control. To attempt to evaluate alternative sites that the applicant would have to acquire (which might well prove impractical or uneconomic), particularly for a merchant applicant with no defined service territory, would involve just the sort of task involving endless speculation that the Courts have indicated is unnecessary.

A. Non-Nuclear Sites Will Not Serve the Applicant's Goals and Needs

Applicants proposing to build new nuclear plants may have needs and constraints that are very different from those of the public utility applicants in the 1960's and 1970's. These needs and constraints, discussed below, create a strong presumption that only the use of the applicant's existing nuclear sites would serve the applicant's goals.

Applicants may not have powers of eminent domain to acquire new property. Therefore, when proposing to develop new nuclear units, which require an area of considerable size to meet Exclusion Area requirements, the applicants may generally be constrained to use existing sites. It is possible that a very large industrial site might be acquired, but the likely cost and complexity of such an acquisition for a new nuclear generating station makes this possibility very remote.

Such applicants can only proceed with the development of a new nuclear plant if it is economic. They cannot recover their construction costs through cost-of-service rates and therefore do not have the luxury of selecting and developing new sites. Rather, obtaining economies of scale by sharing the resources and infrastructure of an existing nuclear site may be critical to the economic viability of the project and to the competitiveness of the applicant. In general, a multi-unit site will have a substantial cost advantage over a single unit station. Developing a new nuclear plant at a fossil station or at an industrial site would not provide the same economies of scale, because such a site would not offer the trained nuclear work force or nuclear facilities. For example, establishing offsite emergency planning and preparedness at an industrial or fossil plant would be a considerable expense that could be avoided by using an existing nuclear site.

Use of an existing nuclear site also offers a considerable opportunity for reduced construction costs. An enormous amount of information needed to characterize the site will already exist. In addition, use of an existing site is much more likely to be supported by the local populace and government. Political acceptance of a new nuclear plant will be very important for the applicant because the potential for the types of delays that occurred at some plant sites in the past is simply incompatible with modern-day business needs.

Applicants may not serve established service territories. Therefore, they seek to add capacity at locations that serve market opportunities, consistent with the

constraints of the transmission system and the economics of the project. Thus, the siting decisions of the applicants are fundamental business decisions driven by the market and finances, rather than franchise decisions established for the public convenience and necessity. This is just the type of private business decision to which the agency should defer.[4]

B. Non-Nuclear Sites Are Unlikely to Be Obviously Superior

The fact that an existing nuclear site has already gone through the NEPA process creates a strong presumption that there are no obviously superior alternative sites. In connection with the original selection and licensing, existing sites will already have gone through a screening and evaluation process establishing their suitability, including, for most, a NEPA evaluation of alternatives. The original siting studies were extensive and resulted in the selection and development of the sites chosen, and, absent new and significant information, it is highly unlikely that there are obviously superior alternatives.

In addition, an existing nuclear site is already developed and dedicated to nuclear use. It is hard to conceive of a situation where the construction of new nuclear units at a green-field site would be environmentally superior to the expanded use of an existing nuclear site. It also seems unlikely that development of a non-nuclear industrial site, lacking the necessary infrastructure, could be an "obviously superior" alternative to the expanded use of an existing nuclear site.[5]
These factors greatly distinguish a proposal to site new units at an existing nuclear facility from the applications that were submitted decades ago for first generation plants at pristine locations. Accordingly, the need to evaluate a broad slate of sites no longer exists when an ESP application proposes to use an existing nuclear site. At most, a comparison of the existing site against a generic green-field site and a generic industrial site may be appropriate, to confirm the absence of any anomalous characteristics that might alter the presumption that no obviously superior sites exist.[6]

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[4] As a practical matter, ignoring the applicant's business judgment could lead to a limitless evaluation of alternative sites because the applicant has no service territory defining the geographic region of interest.

[5] Even in cases dealing with the construction of the first generation of plants, the NRC recognized that a proposal to use an existing site is a significant factor, though not dispositive. Rochester Gas & Electric Corp. (Stirling Power Project, Nuclear Unit No. 1), ALAB-502, 8 N.R.C. 383, 394-95 (1978), citing Boston Edison Co. (Pilgrim Nuclear Generating Station, Unit 2), ALAB-479, 7 N.R.C. 774, 789 (1978). Stirling was unique in that the intervenors were arguing for an existing site while the applicant was arguing for a virgin site. Thus, the factor favoring the applicant's preference was counterbalancing the factors favoring existing sites—a situation unlikely to recur today.

[6] For many years, the Commission's practice was to not initiate an extensive review of an applicant's site selection process unless substantial inferior qualities were identified at he applicant's proposed site. 45 Fed. Reg. 24,168 (1980). In the late 1970s, however, the NRC "dramatically expanded its review of the applicant's site selection process and procedures, as well as its review of the scope and depth of the detailed investigation of alternative sites." Id. The change in the nature of the industry, and the changes in interpretation of NEPA that occurred after the environmental reviews for the current generation of plants, now justify a return to the practice of limiting review in the absence of any significant, environmentally negative characteristic of the applicant's proposed site. An agency is not required under NEPA to consider alternatives when such consideration would serve no

4. Conclusion

For all of these reasons, the NRC should limit its consideration of alternative sites to existing nuclear sites controlled by the applicant, coupled with the applicant's discussion of generic green-field and industrial sites to confirm the presumption that no obviously superior site exists. This approach would focus the review of alternative sites on those serving the private applicant's needs, consistent with the most recent court decisions. The review would also be focused on those sites that a reasonable person would clearly favor. The approach would similarly result in a more efficient, meaningful and reasonable review by avoiding a wasteful evaluation of alternatives that an applicant has no intention, means or wish to develop.

The NRC and Congress have both recognized the need to improve the efficiency and reliability of the NRC licensing process. This objective is all the more important for the next generation of plants because applicants relying on private financing simply cannot afford to participate in some of the protracted proceedings of the past. Respecting the applicant's business needs and judgment will provide some of the certainty that is required for development of the next generation of plants to proceed. In contrast, launching into a far-reaching evaluation of alternative sites, second-guessing an applicant's choice after the applicant has devoted the time and resources necessary to prepare its application, would be an unnecessary obstacle to efficient and predictable licensing, and would also be inconsistent with NEPA's rule of reason.

purpose. NRDC. v. SEC, 606 F.2d 1031, 1054 (D.C. Cir. 1979); Citizens Comm. Against Interstate Route 675 v. Lewis, 542 F. Supp. 496, 540 (S. D. Ohio 1982).

ESP-18a, Enclosure 2
December 20, 2002

Status of Generic ESP Interactions

ESP Topic Higher priority topics shaded	Initial Discussion	Resolution Pending	Discussions Ongoing	Next Discussion	NEI Letter	NRC Response	Potential Snr. Mgmnt Issue	ESP Schedule Impact if not Resolved by	Remarks
1. ESP application form & content	8/22		x	1/29					NRC provided TOC comparison on Oct. 16
2. ESP inspection guidance	4/24		x	1/29					• IMC-2501 issued; reflects QA open issue (see ESP-3) • ESP Review Std to be issued for use & comment by year end
2a. Pre-application interactions (voluntary nature, plans for local public mtgs & review fee structure)	4/24	x			11/26				
3. QA requirements for ESP information	5/28	x			12/20			2/1/03	
4. Nominal NRC review timeline	10/17		x	1/29					
5. Mechanism for documenting resolution of ESP issues	5/28				9/10	11/5			
6. Use of plant parameters envelope (PPE) approach	7/16	x			12/20			2/1/03	
7. Guidance for satisfying. §52.17(a)(1) requirements	7/16	x			12/20			2/1/03	Related to ESP-6
8. Fuel cycle and transportation impacts (Tables S-3 & S-4)	9/25		x	1/29				3/1/03	
9. Criteria for assuring control of the site by the ESP holder				3/5					
10. Use of License Renewal GEIS for ESP	9/25	x							
11. Criteria for determining ESP duration (10-20 years)	12/5	x			12/20				

ESP-18a, Enclosure 2
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ESP Topic Higher priority topics shaded	Initial Discussion	Resolution Pending	Discussions Ongoing	Next Discussion	NEI Letter	NRC Response	Potential Snr. Mgmnt Issue	ESP Schedule Impact if not Resolved by	Remarks
12. Guidance for evaluating severe accident mitigation alternatives under NEPA	8/22	x			12/20			2/1/03	
13. Guidance for ESP seismic evaluations	6/13		x	1Q03					2nd meeting on pilot demonstration activity planned for 1Q03
14. Applicability of Federal requirements concerning environmental justice				3/5					Evaluating related PFS decision by Commission
15. Appropriate level of detail for site redress plans	9/25	x			11/26				
16. Guidance for ESP approval of emergency plans				1/29					
17. Petition to eliminate duplicative NRC review of valid existing site/facility information									Staff recommendation pending on petition PRM-52-1
18. Petition to eliminate reviews for alternate sites, sources and need for power									Staff recommendation pending on petition PRM-52-2
18a Alternative site reviews	12/5	x			12/20			3/1/03	
19. Addressing effects of potential new units at an existing site				3/5					
20. Practical use of existing site/facility information	9/25	x			11/26				
21. Understanding the interface of ESP with the COL process.				3/5					
22. Form and content of an ESP	8/22		x	1Q03				2/1/03	NEI draft under consideration by NRC